

Claims:

Sub 1

1. An ink jet recording apparatus comprising an ink jet recording head for receiving supply of ink from an ink cartridge provided with storage means storing data for determining compatibility of a recording apparatus, and control means for determining compatibility of ink based on the data in the storage means and executing print operation, wherein

if compatibility to an ink cartridge cannot be confirmed when the ink cartridge is mounted, the recording apparatus generates a caution and awaits input of a continuation instruction by a user to execute a subsequent operation.

Sub 2

2. The ink jet recording apparatus as claimed in claim 1, wherein the caution is generated each time a predetermined amount is printed.

3. The ink jet recording apparatus as claimed in claim 1, wherein if a cartridge replacement instruction is entered after the compatibility is confirmed, the ink cartridge is moved to an ink cartridge replacement position.

4. An ink jet recording apparatus comprising an ink jet recording head for receiving supply of ink from an ink cartridge provided with storage means storing data, and control means for driving the recording head based on the data in the storage means, the recording apparatus further comprising:

default data storage means storing default data for controlling the recording head; and

print control means, which reads the data from the storage means of the ink cartridge to determine compatibility when the ink cartridge is mounted, which, if compatible, controls the ink jet recording head based on the data in the storage means of the ink cartridge, and which, if incompatible, executes print operation based on the data in the default data storage means.

5. The ink jet recording apparatus as claimed in claim 4, further comprising rewritable update data storage means, wherein the print control means is provided, which reads the data from the storage means of the ink cartridge to determine the compatibility when the ink cartridge is mounted, which, if compatible, updates data in the update data storage means based on the data in the storage means of the ink cartridge and controls the ink jet recording head based on the data in the storage means of the ink cartridge, and which, if incompatible, executes the print operation based on the data in the update data storage means or the data in the default data storage means.

6. An ink jet recording apparatus comprising an ink jet recording head for receiving supply of ink from an ink cartridge provided with storage means storing data for determining compatibility to a recording apparatus, and control means for determining compatibility of ink based on the data in the storage means and executing print operation, comprising

optimum drive condition storage means storing an optimum drive condition for an ink cartridge, compatibility of which can be confirmed;

setup range storage means storing normal setup range data for comparison, concerning ink information in the storage element;

general-purpose drive condition storage means storing a general-purpose drive condition for making it possible to reliably print even with an ink cartridge, compatibility of which cannot be confirmed; and

a determination section which compares attention ink information read from the storage element with the normal setup range data, which executes printing using the optimum drive condition if the ink information is within the normal setup range, and which executes printing using the general-purpose drive condition if the ink information contains information out of the normal setup range.

7. The ink jet recording apparatus as claimed in claim 6, wherein the general-purpose drive condition is set such that pressure for ejecting an ink droplet from the recording head is set larger than the optimum drive condition and that the record paper feed speed is set lower than the optimum drive condition.

8. The ink jet recording apparatus as claimed in claim 6, wherein a plurality of the general-purpose drive conditions

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if compatibility of the ink cartridge cannot be confirmed,
the control means outputs data used as a guide for determining
a compatible ink cartridge.

Sub C1 Unit
12. The ink jet recording apparatus as claimed in claim 11,
further comprising means for determining a record medium
loaded to the recording apparatus.

13. The ink jet recording apparatus as claimed in claim 11
or 12, wherein the compatibility is compatibility to the
recording apparatus and record medium.

Sub B3
14. The ink jet recording apparatus as claimed in claim 11,
wherein the control means determines the compatibility of the
mounted ink cartridge based on the data from the storage means
when the mounted ink cartridge is to be replaced, and the
control means outputs data for specifying the mounted ink
cartridge if it is the compatible is found.

15. A method of determining compatibility of ink based on
data stored in storage means of an ink cartridge for supplying
ink to a recording head of an ink jet recording apparatus, the
method comprising the steps of:

generating a caution if compatibility to an ink cartridge
cannot be confirmed when the ink cartridge is mounted; and

awaiting input of a continuation instruction by a user
to execute a subsequent operation.

Sub C1 Unit
16. A method of controlling an ink jet recording apparatus
comprising an ink jet recording head for receiving supply of

ink from an ink cartridge provided with storage means storing data, comprising the steps of:

reading data from the storage means of the ink cartridge to determine compatibility of the ink cartridge when the ink cartridge is mounted to the recording apparatus;

controlling the ink jet recording head based on the data in the storage means of the ink cartridge if the ink cartridge is compatible; and

executing print operation based on data stored in default data storage means if the ink cartridge is incompatible.

17. A method of controlling an ink jet recording apparatus comprising an ink jet recording head for receiving supply of ink from an ink cartridge provided with storage means storing data for determining compatibility to a recording apparatus, the method comprising the steps of:

comparing attention ink information read from the storage means with normal setup range data;

executing print operation using optimum drive condition if the ink information is within the normal setup range; and

executing print operation using general-purpose drive condition if the ink information contains information out of the normal setup range.

18. A method of controlling an ink jet recording apparatus comprising an ink jet recording head for receiving supply of ink from an ink cartridge provided with storage means storing

data for determining compatibility to a recording apparatus,
the method comprising the steps of:

determining compatibility of the ink cartridge based on
the data from the storage means when the recording head is to
be filled with ink after the ink cartridge is mounted; and

outputting data used as a guide for determining a
compatible ink cartridge if the compatibility cannot be
confirmed.

19. A method of assisting a user to determine a compatible
cartridge, the method comprising the steps of:

checking data of a first ink cartridge to determine
compatibility of the first ink cartridge;

outputting data used as a guide for determining a
compatible, second ink cartridge if compatibility of the first
ink cartridge cannot be confirmed.

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